Case 3475

Myrmarachne MacLeay, 1839 (Araneae, SALTICIDAE): proposed conservation of the generic name

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Abstract. The purpose of this application, under Article 23.9.3 of the Code, is to conserve the generic name *Myrmarachne* MacLeay, 1839 for a well-known and widespread group of extant, ant-mimicking jumping spiders (Araneae, SALTICIDAE) by suppression of a little-used senior subjective synonym, *Entomocephalus* Holl, 1829, introduced for a fossil spider preserved in either Eocene Baltic amber or perhaps in Subrecent copal. Holl (1829) based this name on drawings in an earlier work by Schweigger (1819). This original description did not state the number of specimens, but only one was figured, which we presume to represent the holotype by monotypy. Its repository could not be traced and we are not aware of subsequent specimens which could provide a neotype. However, the illustration of an ant-like salticid by Schweigger is of sufficient quality that we consider it likely that *Entomocephalus* and *Myrmarachne* are synonyms.

Keywords. Nomenclature; taxonomy; Araneae; SALTICIDAE; *Myrmarachne*; *Entomocephalus*; *Myrmarachne melanocephala*; salticid spider; Baltic amber.

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1. Schweigger (1819) wrote a treatise on the anatomy and physiology of corals, which included an appendix with observations on amber. The origin of this amber is not clearly stated, but since August Friederich Schweigger was professor in Königsberg (now Kaliningrad) it would implicitly be Baltic amber of Palaeogene (Eocene) age (but see below). Schweigger (1819) illustrated some insects, a scorpion and (pl. VIII, figs. 68, 68a) a spider, none of which were formally named. Schweigger's drawings are nevertheless quite good and the spider shown is evidently a member of the SALTICIDAE (jumping spiders), as shown by the large anterior median eyes and characteristic arrangement of the other eyes. Also notable in the drawing are the massive, forward-projecting chelicerae with a series of internal teeth (or spines) on the basal article and a long, slightly S-shaped, slender fang with a distally curved tip, as well as subdivision of the prosoma to give the body a tripartite, and distinctly ant-like, form.

2. In a subsequent early palaeontological textbook Friederich Holl introduced the name *Entomocephalus formicoides* Holl, 1829 (pp. 178–9) for this fossil, believing it to

be some sort of cross between an insect and a spider. Neither Schweigger nor Holl clearly stated the repository of the type material, although presumably this was either a university or museum collection in Königsberg. In the same textbook, Schweigger's amber scorpion was named *Scorpio schweiggeri* Holl, 1829. Its type specimen was explicitly reported as lost by Lourenço & Weitschat (1996) and we fear that this is the case for the type specimen of *E. formicoides* too. Other jumping spiders are known from Baltic amber (e.g. Koch & Berendt, 1854; Żabka, 1988; Wunderlich, 2004b), but none exhibit the distinctive morphology which could make them suitable as a neotype for this species.

3. The generic name *Myrmarachne* MacLeay, 1839 (p. 10) was introduced for a Recent, ant-mimicking, jumping spider from Bengal. The type species of *Myrmarachne* MacLeay, 1839 is *Myrmarachne melanocephala* MacLeay, 1839 (p. 11), by monotypy. MacLeay's original diagnosis of the genus refers to its long, projecting 'antennae' [= chelicerae] with a series of spines on the basal article and a long 'sinuous' fang. MacLeay's diagnosis thus matches Schweigger's amber fossil almost perfectly. The only minor difference is the number of cheliceral teeth: six in the original diagnosis compared to seven according to Schweigger's illustration. Despite the absence of fossil type material, we see little reason to doubt that *Entomocephalus* is a synonym of *Myrmarachne*. The modern genus has a cosmopolitan distribution with over 200 Recent species, the majority of which are found in the tropics of Africa, the Austro-Pacific region and Asia. No fossils have been assigned to this genus.

4. Since its original description, *Entomocephalus* has only been mentioned on six further occasions that we are aware of, but occasionally after 1900, which precludes the automatic application of Article 23.9.1.1. Geinitz (1846, p. 192) noted it in an early textbook on palaeontology and Scudder (1891, p. 261) included it in his compilation of fossil terrestrial arthropods. Petrunkevitch (1955, p. 152) listed the name, without comment, as incertae sedis in the *Treatise on Invertebrate Paleontology*. Subsequently, he listed it (Petrunkevitch, 1958, p. 372) as a questionable member of another spider family, ARCHAEIDAE Koch & Berendt, 1854. Penney (2003, p. 126) recognised that *E. formicoides* is an ant-mimicking jumping spider, explicitly suggesting that it '. . .is almost certainly a salticid, probably belonging to the genus *Myrmarachne*. . .' and further noted that *Entomocephalus* would, under these circumstances, be the older name. Finally, Wunderlich (2004a, p. 34) mentioned *E. formicoides* as a '. . .striking old fake. . .', raising the possibility that the fossil does not derive from Baltic amber, but from Subrecent Madagascan copal. In this context Wunderlich's use of 'fake' implies a genuine subfossil specimen in copal being passed off as considerably older amber (J. Wunderlich, pers. comm. 2008). Wunderlich agreed that this specimen is probably a *Myrmarachne* and that there was precedent for the occurrence of this genus in copal (cf. Goeppert & Berendt, 1845), albeit under an older preoccupied name *Pyrophorus* Koch, 1837 – incorrectly spelled '*Poryphorus*' in Wunderlich's paper.

5. The name *Myrmarachne* is common and widespread both in the scientific (cf. Platnick, 2008 and citations therein) and popular literature on spiders and thus satisfies the conditions of Article 23.9.1.2. It is also in use in standard online spider databases (Prószyński 2007; Shorthouse 2008). Recent usages include descriptions of new taxa and/or revisions by Wanless (1978), Berry et al. (1996) and Wesłowska & Salm (2002), in faunistics (Bradley et al., 2006) and in comprehensive studies of

jumping spider phylogeny (e.g. Maddison & Hedin, 2003; Maddison et al., 2008). *Myrmarachne* has been widely used in reviews of ant-mimicry by spiders (Cushing 1997; and references therein) and the genus is regarded as a model for Batesian mimicry (Nelson et al., 2006; Ceccarelli & Crozier, 2007). The name has also been used in further studies of ant-associations and the general natural history of these remarkable-looking spiders (Edmunds, 2006; Jackson et al., 2008). A further list of citations of the name *Myrmarachne* in various biological fields (taxonomy, phylogeny, behaviour) is available at http://research.amnh.org/entomology/spiders/catalog/INTRO2.html (Platnick's Catalogue). Replacing the name *Myrmarachne* with the senior, but little-known fossil name *Entomocephalus* would cause considerable confusion and instability. It is therefore proposed that the name *Entomocephalus* Holl, 1829 be suppressed.

6. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary power to suppress the generic name *Entomocephalus* Holl, 1829 for the purposes of the Principle of Priority but not for those of the Principle of Homonymy;
(2) to place on the Official List of Generic Names in Zoology the name *Myrmarachne* MacLeay, 1839, type species by monotypy *Myrmarachne melanocephala* MacLeay, 1839;
(3) to place on the Official List of Specific Names in Zoology the name *melanocephala* MacLeay, 1839, as published in the binomen *Myrmarachne melanocephala*, the specific name of the type species of *Myrmarachne* MacLeay, 1839;
(4) to place on the Official Index of Rejected and Invalid Generic Names in Zoology the name *Entomocephalus* Holl, 1829, as suppressed in (1) above.

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